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# *GRAIN SORGHUMS*

## 1958 Performance in Illinois

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*Bulletin 643*

UNIVERSITY OF ILLINOIS AGRICULTURAL EXPERIMENT STATION

EXTENSIVE TESTING OF GRAIN SORGHUM hybrids and varieties was started in Illinois in 1956 as a result of increased interest in sorghums among Illinois growers. This bulletin reports the results of the 1958 tests. Results of the 1956 and 1957 trials were reported in mimeographs AG1738 and AG1785 of the Department of Agronomy.

The 1958 tests were carried on at seven widely separated locations in the state (Table 1). Twenty-eight sorghum hybrids and nine sorghum varieties were tested. In each field three corn hybrids adapted to the area were grown for comparison. The seed for the tests was supplied by both agricultural experiment stations and commercial seed producers (Table 2). The tests were supported in part by an entry fee for each commercial entry.

Location of 1958 test fields. The east-central test was actually nearer Champaign than Urbana.



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This bulletin was prepared by C. N. Hittle, Associate Professor of Agronomy; G. E. McKibben, Associate Professor of Agricultural Research and Extension; and D. R. Browning, Research Associate in Agronomy. Thanks are due W. C. Jacob and R. D. Seif for processing the data and to O. W. Pile for his help in planting, harvesting, and threshing. Thanks are also due H. J. Schultz and Robert Schultz, Champaign, Julius Frye, Havana, and George Brokaw, Biggsville, for their assistance in the tests.

For general information about grain sorghums for Illinois farmers, see Circular 774, "Grain Sorghums in Illinois."

Table 1.—General Information on 1958 Trials

County	Location	Soil type	Soil production potential	Plot size planted*	Date planted	Plot size harvested	Date harvested
Champaign	H. J. Schultz and Robert Schultz farm, 5 miles southwest of Champaign	Flanagan silt loam	Very high	4 rows each 20' long	May 23	2 rows each 12' long	Oct. 21
Mason	Julius Frey farm, 2 miles southeast of Havana	Dune sand	Very low	4 rows each 25' long	May 22	2 rows each 15' long	Oct. 4
Henderson	George Brokaw farm, 2 miles northeast of Biggsville	Tama silt loam	High	4 rows each 25' long	May 20	2 rows each 15' long	Oct. 4
Jackson	Cooperative Agronomy Research Center at Carbondale <sup>b</sup>	Stoy silt loam	Moderately low	2 rows each 20' long	June 9	2 rows each 16½' long	Oct. 1
Pope	Dixon Springs Experiment Station	Grantsburg and Robbs silt loams	Low	4 rows each 25' long	June 10-16	1 row, 16½' long	Oct. 22
DeKalb	Northern Illinois Experiment Field	Flanagan silt loam	Very high	2 rows each 18' long	May 15	Not harvested for yield because many varieties were not mature by frost.	
Fayette	Brownstown Experiment Field	Hoyleton and Cisne silt loams	Moderately low	2 rows each 19' long	June 5	Not harvested for yield because of poor stands.	

<sup>a</sup> All rows were 40 inches apart.<sup>b</sup> Southern Illinois University and University of Illinois cooperating.

**Table 2.—Entries for 1958 Performance Tests**

Hybrid or variety	Entered by
<b>Sorghum varieties</b>	
Combine 7078, Combine Kafir 60, Hegari, Martin, Midland, Plainsman, Redbine 60, Reliance, Westland	Illinois Agricultural Experiment Station
<b>Sorghum hybrids</b>	
RS 590, Texas 601, RS 610, Texas 611, Texas 620, RS 630, Texas 640, Texas 645, RS 650, Texas 660	Illinois Agricultural Experiment Station (seed furnished by Texas Agricultural Experiment Station — Substation No. 12)
RS 608	Illinois Agricultural Experiment Station (seed furnished by Nebraska and Texas Agricultural Experiment Stations)
RS 501	Illinois Agricultural Experiment Station (seed furnished by Nebraska Agricultural Experiment Station)
AMAK R-10, AMAK R-12	AMAK, Inc. — sponsored by Asgrow Texas Company, Advance Seed and Grain Company, and J. R. McNeil DeKalb Agricultural Association, Inc.
DeKalb C44a, DeKalb D50a, DeKalb E56a, DeKalb Exp. 1, DeKalb Exp. 2	Northrup, King and Company
NK 135, NK 140, NK 220, NK 230, NK 3000	Pfister Associated Growers, Inc.
P.A.G. 425-S, P.A.G. 435-S, P.A.G. 515-S, P.A.G. 605-S	
<b>Corn hybrids</b>	
U.S. 13, AES 702, AES 805, Ill. 1332, Ill. 1851	Illinois Agricultural Experiment Station

Data for only five of the fields are reported here. One field was not harvested for yield because many varieties did not mature, and another because of poor stand.

### Growing Conditions

An abundance of moisture during the 1958 growing season (Table 3) provided generally favorable conditions for corn but not always for the sorghums. The stand at the Brownstown field in Fayette county was poor as a result of excessive moisture soon after planting, which apparently caused seed and seedling rot. This field was not harvested for yield. Temperatures below normal and excessive moisture at Champaign apparently reduced emergence and caused slow establishment of entries.

At DeKalb in northern Illinois, moisture was limited at the time of planting, emergence was slow, and the sorghums were slow in becoming established. Many of the entries had not reached maturity by the time of the first frost, on October 1, and so the field was not harvested for yield.

The cool temperatures and reduced sunlight which prevailed during much of June, July, and August in 1958 undoubtedly delayed blooming at some locations. At Champaign the average number of days to reach mid-bloom was 84 in 1958 compared with 61 in 1957. At Carbon-

Table 3.—1958 Rainfall Data From Weather Stations Near or at Locations of Trials

County	Weather station location	Precipitation						
		May	June	July	Aug.	Sept.	Oct.	Six-month total
Champaign	Urbana	4.29	7.50	7.17	3.27	2.84	.42	25.49
Mason	Havana	1.00	5.68	8.02	1.89	1.91	1.59	20.09
Henderson	Gladstone Dam	3.98	7.34	6.02	3.26	3.02	1.15	24.77
Jackson	Agronomy Research Center, Carbondale	4.34	4.94	10.79	5.09	2.40	1.89	29.45
Pope	Dixon Springs Experiment Station	3.55	4.76	14.25	3.21	2.73	1.14	29.64
DeKalb	Northern Illinois Experiment Field	2.74	6.38	5.69	3.81	1.26	2.39	22.27
Fayette	Brownstown Experiment Field	3.25	3.45	10.29	1.57	3.22	1.86	23.64

dale in Jackson county, days to mid-bloom stage averaged 72 in 1958 and 62 in 1957.

### Planting and Harvesting

The experimental design used was a  $6 \times 7$  rectangular lattice with three replications, except at DeKalb where a randomized block design with three replications was used.

All trials were planted with a hand seeder in 40-inch rows at the calibrated rate of 8 seeds per foot. Stands were not thinned. Only those portions of the rows with adequate and uniform stands were harvested for yield data. Sorghum heads were harvested by hand. Heads from each plot were dried artificially to approximately 10 to 12 percent moisture, threshed by a Vogel nursery thresher, and cleaned by a fan.

### Results

Data for 1958 and for summaries for 1956, 1957, and 1958 are presented in Tables 4 through 8. Three-year averages are, of course, more reliable than results for only one year. The fact that an entry does not appear in the summary, however, does not mean it is inferior; its absence merely indicates that it was not tested for all three seasons.

**Yields.** All yields, including corn yields, were adjusted to 13 percent moisture and 56 pounds per bushel.

Average yields for sorghum hybrids in 1958 were about 40 percent above those for the varieties. In most trials, the hybrid sorghums did not yield as well as corn. It is not expected that existing sorghum

hybrids will yield better than corn under conditions favorable for corn. The sorghums are more likely to be grown on drouthy soils, such as the sands and claypans, where reduced corn yields can be expected, especially in a dry year. In Mason county on Dune sand, the sorghums had an advantage and yielded better than the corn. Sorghums are also likely to be grown when late plantings are necessary.

**Maturity.** A good measure of relative maturity of the different entries is the number of days to bloom, considered to be when 50 percent of the head has flowered.

In 1958 there was a difference of 12 and 13 days between the time of flowering of the earliest and latest varieties in Champaign and Jackson counties respectively. In years when blooming is not delayed as it was in 1958, the difference approximates 17 days.

In northern Illinois, only the earliest-maturing varieties and hybrids can be expected to reach maturity before frost. In central and southern Illinois, medium- and late-maturing varieties should be grown because of their greater yield.

**Test weight.** The test weight, or weight per bushel, is one of the quality factors used in determining the grade that is assigned in commercial marketing of grain. Entries in these trials did not differ greatly in this characteristic.

**Head exsertion.** Head exsertion is the distance from the top leaf (flag leaf) to the base of the head. Sorghums with good head exsertion are more easily combined because less plant material passes through the combine.

The range among entries for head exsertion is usually about 6 inches; in the Illinois trials, most hybrids exceeded the varieties in this characteristic.

**Lodging.** Plants were considered lodged when they inclined more than 45 degrees. In the 1958 trials, there was little lodging and no important difference among entries, so the data are not reported here.

**Height.** Height is measured from the ground level to the top of the plant. Shorter varieties and hybrids are easier to combine. In the 1958 trials, in Champaign county, entries ranged from 46 to 72 inches in height; in Jackson, from 47 to 75; in Pope, from 47 to 76; and in Mason county, on Dune sand where moisture is more limited, the range was from 32 to 55 inches.

**Silage.** Grain sorghums can be made into silage but can be expected to yield less than forage sorghums. For the past three years at Dixon Springs, grain sorghums averaged 9.7 tons of silage an acre, while forage sorghums averaged 14.1 tons and corn 12.6 tons. In 1958 all silage yields at Dixon Springs were lower than for the two previous years.

## Interpreting Yield Differences in the Tables

Entries are ranked in the order of yield, but it should be remembered that small differences do not necessarily indicate that one hybrid or variety is inherently superior to another. To find whether a variety is significantly different from another in yield, it is necessary to examine the column immediately to the right of the yield, which indicates the shortest significant ranges.<sup>1</sup> Entries included in the same line are not significantly different from each other, and those not included in the same line are significantly different.

Shortest significant ranges have also been calculated for the characteristics other than yield. They are not included here, but may be obtained by writing to the Department of Agronomy, University of Illinois, Urbana.

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<sup>1</sup> These ranges have been computed in accordance with Duncan's "Multiple Range Test." See D. B. Duncan, "Multiple Range and Multiple F Tests," *Biometrics* 11 (1), 1-43. 1955.

Table 4.—East-Central Illinois, Champaign County

Rank in yield	Hybrid or variety	Yield at 13% mois- ture	Shortest significant ranges*	Test weight	Plant height	Head exser- tion	Days to bloom
		bu/acre		lb.	in.	in.	
1958 RESULTS							
1	U.S. 13 (corn).....	129		58	107	..	..
2	AES 702 (corn).....	127		58	101	..	..
3	Ill. 1332 (corn).....	119		58	100	..	..
4	DeKalb D50a.....	111		57	69	10	81
5	Texas 601.....	110		57	62	9	84
6	RS 610.....	110		56	62	10	83
7	Texas 620.....	105		58	64	8	82
8	Texas 611.....	104		56	65	9	84
9	P.A.G. 435-S.....	101		59	55	8	83
10	AMAK R-10.....	101		55	56	11	84
11	RS 501.....	100		56	72	8	78
12	RS 608.....	99		56	58	10	83
13	Texas 660.....	99		58	63	10	84
14	DeKalb C44a.....	98		54	52	8	82
15	RS 630.....	97		54	61	6	84
16	AMAK R-12.....	97		55	60	8	85
17	DeKalb E56a.....	97		56	60	9	84
18	P.A.G. 605-S.....	96		57	64	9	85
19	DeKalb Exp. 1.....	95		57	67	9	85
20	P.A.G. 515-S.....	94		54	64	7	86
21	RS 590.....	93		56	59	9	85
22	P.A.G. 425-S.....	93		57	59	10	82
23	NK 230.....	88		55	57	9	85
24	NK 135.....	86		56	65	10	79
25	Texas 640.....	86		52	49	8	85
26	RS 650.....	85		56	56	8	85
27	NK 140.....	85		56	60	8	86
28	DeKalb Exp. 2.....	84		54	55	9	86
29	Texas 645.....	80		52	48	6	85
30	Hegari (variety).....	79		56	68	7	78
31	NK 220.....	79		56	58	9	87
32	NK 3000.....	78		55	61	10	80
33	Westland (variety).....	78		55	46	5	87
34	Martin (variety).....	76		57	57	8	88
35	Midland (variety).....	74		57	63	6	84
36	Redbine 60 (variety).....	73		56	61	8	86
37	Combine 7078 (variety).....	70		52	46	5	85
38	Combine Kafir 60 (variety).....	59		56	60	5	86
39	Plainsman (variety).....	53		52	53	7	90
40	Reliance (variety).....	42		55	55	8	78
	Av. all entries.....	91		56	62	8	84
	Av. 3 corn hybrids.....	125		58	103	..	..
	Av. 28 sorghum hybrids.....	95		56	60	9	84
	Av. 9 sorghum varieties.....	67		55	57	7	85
SUMMARY: 1956-1958 OR 1957-1958 AVERAGES							
		(1956- 1958)		(1956- 1958)	(1956- 1958)	(1957- 1958)	(1957- 1958)
1	DeKalb D50a.....	114		59	62	10	70
2	Corn (av. of 3 hybrids).....	113		58	110	..	..
3	RS 610.....	112		57	60	9	71
4	Texas 620.....	109		59	62	8	72
5	Texas 601.....	108		59	58	8	72
6	Texas 660.....	104		58	61	8	74
7	Texas 611.....	103		58	60	7	72
8	DeKalb E56a.....	103		58	60	8	72
9	RS 501.....	101		58	69	8	66
10	RS 650.....	101		58	55	7	74
11	RS 590.....	100		58	59	8	72
12	Hegari (variety).....	100		58	71	5	76
13	Redbine 60 (variety).....	90		57	58	7	73
14	Martin (variety).....	86		59	57	8	75
15	Combine 7078 (variety).....	82		53	47	6	74
16	Combine Kafir 60 (variety).....	78		58	57	4	74
17	Midland (variety).....	76		58	58	6	72
18	Plainsman (variety).....	75		55	51	6	78
19	Westland (variety).....	74		58	48	5	76
20	Reliance (variety).....	55		56	55	8	65
	Av. corn hybrids.....	113		58	110	..	..
	Av. 10 sorghum hybrids.....	106		58	61	8	72
	Av. 9 sorghum varieties.....	80		57	56	6	74

\* Entries included in the same line are not different from each other at the 5-percent level of significance.

Table 5.—Central Illinois, Mason County

Rank in yield	Hybrid or variety	Yield at 13% moisture	Shortest significant ranges <sup>a</sup>	Test weight	Plant height
		bu/acre		lb.	in.
1958 RESULTS					
1	RS 630.....	58		60	48
2	RS 650.....	54		58	42
3	RS 610.....	52		58	47
4	DeKalb D50a.....	52		59	55
5	NK 230.....	52		58	45
6	Texas 620.....	51		59	45
7	RS 590.....	50		57	50
8	P.A.G. 425-S.....	47		60	41
9	Texas 645.....	46		57	43
10	AMAK R-12.....	44		60	48
11	NK 3000.....	44		59	48
12	AMAK R-10.....	42		60	42
13	RS 608.....	42		58	44
14	Texas 611.....	41		58	48
15	DeKalb E56a.....	41		58	50
16	DeKalb Exp. 2.....	41		60	44
17	P.A.G. 515-S.....	40		59	46
18	P.A.G. 435-S.....	39		59	42
19	Combine Kafir 60 (variety).....	37		58	45
20	Hegari (variety).....	37		59	49
21	Texas 601.....	36		60	43
22	Texas 640.....	36		59	36
23	DeKalb C44a.....	35		59	45
24	Combine 7078 (variety).....	35		57	32
25	Texas 660.....	35		59	48
26	NK 140.....	34		60	47
27	Westland (variety).....	33		58	42
28	NK 135.....	33		56	52
29	DeKalb Exp. 1.....	32		58	48
30	Plainsman (variety).....	28		58	41
31	U.S. 13 (corn).....	27		56	60
32	NK 220.....	26		58	46
33	Martin (variety).....	25		58	44
34	RS 501.....	24		60	50
35	P.A.G. 605-S.....	24		58	48
36	Redbine 60 (variety).....	24		57	44
37	AES 702 (corn).....	18		56	53
38	Ill. 1332 (corn).....	18		56	51
Av. all entries.....		38		58	46
Av. 3 corn hybrids.....		21		56	55
Av. 28 sorghum hybrids.....		41		59	46
Av. 7 sorghum varieties.....		31		58	42
SUMMARY: 1956-1958 AVERAGES					
1	RS 650.....	63		58	39
2	DeKalb D50a.....	62		57	49
3	RS 610.....	61		58	43
4	Combine Kafir 60 (variety).....	55		59	42
5	RS 501.....	52		58	47
6	Hegari (variety).....	51		57	50
7	Westland (variety).....	47		58	39
8	Corn (av. of 3 hybrids).....	46		56	48
Av. corn hybrids.....		46		56	48
Av. 4 sorghum hybrids.....		60		58	44
Av. 3 sorghum varieties.....		51		58	44

<sup>a</sup> Entries included in the same line are not different from each other at the 5-percent level of significance.

Table 6.—West-Central Illinois, Henderson County

Rank in yield	Hybrid or variety	Yield at 13% moisture	Shortest significant ranges*	Test weight		Pro- tein per cent.
				bu/acre	lb.	
1958 RESULTS						
1	U.S. 13 (corn).....	132			57	10.0
2	AES 702 (corn).....	126			57	10.0
3	Ill. 1332 (corn).....	126			58	10.0
4	RS 610.....	124			58	10.6
5	AMAK R-12.....	122			58	10.6
6	DeKalb E56a.....	117			57	11.9
7	Texas 601.....	116			58	10.6
8	DeKalb D50a.....	116			57	10.0
9	Texas 611.....	115			60	11.9
10	RS 590.....	113			58	11.9
11	Texas 620.....	111			59	11.9
12	DeKalb Exp. 1.....	111			60	11.9
13	RS 650.....	110			59	10.6
14	Texas 660.....	108			59	10.6
15	AMAK R-10.....	106			56	11.2
16	P.A.G. 425-S.....	106			58	12.5
17	P.A.G. 515-S.....	105			58	11.2
18	P.A.G. 605-S.....	105			60	12.5
19	RS 630.....	105			57	10.6
20	DeKalb C44a.....	104			56	11.9
21	P.A.G. 435-S.....	103			58	12.5
22	NK 230.....	102			58	12.5
23	RS 608.....	101			58	11.6
24	Martin (variety).....	101			60	13.8
25	Texas 640.....	101			57	11.2
26	NK 3000.....	96			57	11.2
27	Plainsman (variety).....	94			58	11.9
28	Redpine 60 (variety).....	92			58	11.9
29	DeKalb Exp. 2.....	89			56	11.9
30	RS 501.....	87			59	11.2
31	Texas 645.....	86			58	11.9
32	Combine Kafir 60 (variety).....	86			59	10.6
33	NK 220.....	86			59	13.1
34	NK 140.....	85			58	11.9
35	Combine 7078 (variety).....	81			57	11.2
36	NK 135.....	80			58	12.5
37	Westland (variety).....	77			60	14.4
38	Midland (variety).....	75			58	10.6
39	Hegari (variety).....	73			57	10.6
40	Reliance (variety).....	43			56	11.9
	Av. all entries.....	100			58	11.5
	Av. 3 corn hybrids.....	128			57	10.0
	Av. 28 sorghum hybrids.....	103			58	11.6
	Av. 9 sorghum varieties.....	80			58	11.9

\* Entries included in the same line are not different from each other at the 5-percent level of significance.

Table 7.—Southern Illinois, Jackson County

Rank in yield	Hybrid or variety	Yield at 13% moisture	Shortest significant ranges*	Test weight	Plant height	Head exser- tion	Days to bloom
		bu/acre		lb.	in.	in.	
1958 RESULTS							
1	AES 805 (corn).....	94		54	..	..	..
2	Ill. 1851 (corn).....	86		54	..	..	..
3	Ill. 1332 (corn).....	84		54	..	..	..
4	P.A.G. 435-S.....	69		57	56	13	70
5	Texas 640.....	68		56	52	13	72
6	AMAK R-12.....	65		55	61	12	73
7	P.A.G. 515-S.....	65		55	60	12	69
8	RS 610.....	63		57	60	14	70
9	NK 230.....	62		57	57	14	69
10	Texas 660.....	62		56	60	12	71
11	P.A.G. 605-S.....	61		55	56	13	72
12	RS 650.....	58		55	60	11	71
13	NK 220.....	56		57	59	14	72
14	Texas 645.....	54		54	51	13	67
15	P.A.G. 425-S.....	54		58	50	12	69
16	RS 590.....	53		55	63	13	74
17	Texas 601.....	52		56	58	13	73
18	Texas 620.....	51		56	63	13	71
19	RS 501.....	51		57	67	12	67
20	DeKalb C44a.....	51		55	57	9	75
21	RS 608.....	46		58	56	14	72
22	DeKalb D50a.....	46		58	73	12	73
23	DeKalb E56a.....	46		56	63	14	72
24	DeKalb Exp. 1.....	46		56	60	15	71
25	AMAK R-10.....	43		57	53	15	68
26	Combine Kafir 60 (variety).....	43		49	62	8	78
27	Plainsman (variety).....	43		54	55	12	77
28	Martin (variety).....	42		57	61	11	76
29	DeKalb Exp. 2.....	41		56	53	11	70
30	Hegari (variety).....	40		57	75	9	74
31	Westland (variety).....	39		57	51	13	71
32	Reliance (variety).....	38		55	54	9	65
33	Redbine 60 (variety).....	38		55	59	13	72
34	RS 630.....	34		55	62	10	73
35	Midland (variety).....	33		51	58	9	76
36	Combine 7078 (variety).....	31		53	47	11	73
37	Texas 611.....	29		51	68	14	76
	Av. all entries.....	52		55	59	12	72
	Av. 3 corn hybrids.....	88		54	..	..	..
	Av. 25 sorghum hybrids.....	53		56	59	13	71
	Av. 9 sorghum varieties.....	39		54	58	11	74

## SUMMARY: 1956-1958 OR 1957-1958

	(1956- 1958)		(1956- 1958)	(1957- 1958)	(1957- 1958)
1	Corn (av. of 3 hybrids).....	86	..	78	..
2	RS 610.....	75	..	54	10
3	Texas 620.....	67	..	54	10
4	RS 650.....	67	..	52	8
5	DeKalb D50a.....	65	..	62	8
6	RS 590.....	65	..	55	10
7	Combine Kafir 60 (variety).....	64	..	54	6
8	RS 501.....	62	..	62	10
9	Texas 611.....	56	..	57	10
10	DeKalb E56a.....	55	..	51	8
11	Martin (variety).....	55	..	52	9
	Av. corn hybrids.....	86	..	78	..
	Av. 8 sorghum hybrids.....	64	..	56	9
	Av. 2 sorghum varieties.....	60	..	53	8

\* Entries included in the same line are not different from each other at the 5-percent level of significance.

Table 8.—Southern Illinois, Pope County

Rank in yield	Hybrid or variety	Yield at 13% mois- ture  bu/acre	Shortest significant ranges*	Grain mois- ture at time of frost  perct.	Plant height  in.	Head exser- tion  in.	Dry matter of silage at time of harvest  perct.	Silage at 70% mois- ture  T/acre
1958 RESULTS								
1	AMAK R-10.....	46		19.3	59	8	40.0	8.8
2	RS 610.....	39		20.3	61	7	38.1	9.4
3	AMAK R-12.....	39		22.3	60	8	36.5	8.6
4	Texas 640.....	35		22.6	51	9	37.8	3.9
5	P.A.G. 425-S.....	34		19.6	57	8	39.3	7.1
6	Texas 660.....	33		21.3	63	9	32.1	8.8
7	RS 608.....	32		21.6	58	8	37.8	7.2
8	Ill. 1332 (corn).....	32		20.0	93	.	49.6	4.9
9	Texas 601.....	30		23.0	59	8	37.0	8.9
10	P.A.G. 515-S.....	29		23.0	59	8	35.3	5.7
11	P.A.G. 435-S.....	29		20.3	55	8	32.8	8.8
12	Texas 611.....	29		22.6	62	8	31.1	9.5
13	AES 805 (corn).....	28		24.6	98	.	39.8	6.7
14	Combine 7078 (variety).....	27		25.6	48	8	33.6	3.7
15	Ill. 1851 (corn).....	27		25.6	99	.	36.3	7.5
16	Texas 645.....	26		24.6	53	9	39.3	3.2
17	NK 230.....	25		20.6	57	9	42.6	7.4
18	RS 650.....	25		21.6	54	8	34.6	7.1
19	Westland (variety).....	24		20.3	50	10	34.6	5.2
20	RS 630.....	24		27.0	58	8	32.6	7.0
21	DeKalb Exp. 1.....	23		21.0	63	9	36.6	7.3
22	RS 501.....	22		20.6	64	9	33.5	5.1
23	Texas 620.....	21		22.4	59	9	34.6	6.3
24	DeKalb D50a.....	20		25.0	68	9	37.0	6.6
25	RS 590.....	20		22.6	61	8	37.8	8.9
26	DeKalb E56a.....	19		22.3	60	10	33.1	7.4
27	Hegari (variety).....	17		19.3	76	7	33.0	6.0
28	DeKalb C44a.....	16		26.6	53	9	35.5	5.1
29	Combine Kafir 60 (variety).....	16		28.3	56	8	31.6	5.9
30	P.A.G. 605-S.....	16		21.3	60	9	32.1	5.7
31	Martin (variety).....	16		22.5	55	8	35.6	4.7
32	NK 220.....	15		22.0	53	8	32.8	5.2
33	Plainsman (variety).....	15		30.3	47	9	32.0	4.9
34	DeKalb Exp. 2.....	15		23.0	53	9	32.6	4.4
35	Redbine 60 (variety).....	13		19.6	56	9	41.3	8.2
36	Reliance (variety).....	9		17.0	55	9	29.8	3.8
37	Midland (variety).....	7		23.0	56	8	28.5	3.5
	Av. all entries.....	24		22.4	61	8	35.7	6.4
	Av. 3 corn hybrids.....	29		23.4	97	.	41.7	6.4
	Av. 25 sorghum hybrids.....	27		22.2	58	8	35.8	6.9
	Av. 9 sorghum varieties.....	16		23.0	55	8	33.3	5.1

## SUMMARY: 1956-1958 AVERAGES

1	RS 610.....	70		55	.	.	.	11.6
2	RS 650.....	64		52	.	.	.	10.1
3	DeKalb D50a.....	61		63	.	.	.	11.4
4	Corn (av. of 3 hybrids).....	57		99	.	.	.	12.6
5	RS 501.....	54		62	.	.	.	11.1
6	Texas 620.....	50		57	.	.	.	11.2
7	Hegari (variety).....	50		67	.	.	.	10.4
8	RS 590.....	47		55	.	.	.	11.2
9	Combine 7078 (variety).....	47		44	.	.	.	8.0
10	Plainsman (variety).....	44		45	.	.	.	9.8
11	Texas 611.....	43		57	.	.	.	10.0
12	Martin (variety).....	43		49	.	.	.	9.4
13	Redbine 60 (variety).....	41		53	.	.	.	9.6
14	Combine Kafir 60 (variety).....	41		52	.	.	.	9.3
15	Midland (variety).....	36		53	.	.	.	9.6
16	Westland (variety).....	34		45	.	.	.	7.0
17	Reliance (variety).....	26		53	.	.	.	5.8
	Av. corn hybrids.....	57		99	.	.	.	12.6
	Av. 7 sorghum hybrids.....	56		57	.	.	.	10.9
	Av. 9 sorghum varieties.....	40		51	.	.	.	8.8

\* Entries included in the same line are not different from each other at the 5-percent level of significance.











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